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Contact: Ali Senauer
(206) 860-3263

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**AN INTERDISCIPLINARY TEAM OF SCIENTISTS EMBARK ON AN ADVANCED
TECHNOLOGIES RESEARCH CRUISE TO CHERRY BANK, A DEEPWATER ECOSYSTEM
OFF SOUTHERN CALIFORNIA**

On October 4th, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) will lead an interdisciplinary team of scientists from Washington, Oregon, and California on a two-week advanced technologies (ADT) research cruise to explore a deepwater ecosystem, Cherry Bank, off the coast of Southern California. During this cruise, scientists will use *in situ* acoustic and optical instruments to better understand how these technologies can inform and improve assessments of fisheries and their ecosystems.

"This is an important opportunity for scientists with a variety of backgrounds and expertise to investigate how a suite of advanced technologies can improve our understanding of fisheries and marine ecosystems," said Elizabeth Clarke, a division director at NOAA's Northwest Fisheries Science Center (NWFSC) and chief scientist of this ADT cruise. "This cruise and its results will support NOAA's ocean observation efforts along the West Coast as well as NOAA Fisheries' ecosystem-based management and advanced technology goals."

The team of scientists from NOAA's NWFSC, University of Washington, Oregon State University (OSU), Oregon State Department of Fish and Wildlife, and California State University's Moss Landing Marine Laboratories will depart from Newport, OR on October 4th and head south to Cherry Bank. Cherry Bank, about 100 nautical miles west of San Diego, is representative of deepwater rocky bank habitats that are home to a variety of commercially important fish species, including a diverse assemblage of rockfishes. Scientists from NOAA Fisheries Northwest and Southwest Fisheries Science Centers, in cooperation with geologists from OSU, mapped a number of banks in the Southern California Bight last year and identified Cherry Bank as a natural location for additional exploration.

Geologists, physical and biological oceanographers, and fisheries scientists will conduct their investigations off of the R/V *Thomas G. Thompson*, a 274-foot research vessel owned by the U.S. Navy and operated by the University of Washington. The R/V *Thompson* has a variety of specialized laboratory spaces and a state-of-the-art sea floor mapping system. From this research platform, scientists will deploy a range of technologies that will sample an entire cross section of the ocean, from seafloor to surface, over Cherry Bank.

On the ocean floor, scientists will map the underwater terrain using the vessels' advanced mapping system. In addition, an advanced scientific remotely operated vehicle (ROV), with an array of sophisticated sampling equipment, will enable scientists to view benthic habitats and communities and collect specific samples of rock, sediment, and benthic organisms for later examination and analysis. A Dual-frequency IDentification SONar or DIDSON, a unique sonic camera that produces high definition images, similar to a medical ultrasound, will be mounted on the ROV and used to image fish behavior and seafloor morphology beyond the ROV's field of sight.

In the overlying ocean waters, scientists will use acoustic technologies to identify and track commercially important fish species and deep sound scattering layer organisms, which rise toward the surface in the evening and sink again at dawn. Scientists will also use a video plankton recorder (VPR) to investigate zooplankton communities. The VPR is an imaging system that simultaneously collects images of plankton and information on the physical properties of the water column.

Application of this suite of advanced technologies by this interdisciplinary team of scientists will provide a unique profile of the geological, physical, chemical, and biological systems of Cherry Bank. To assist in the acquisition, storage, and future dissemination of this data, an information technology representative from the NWFSC will be onboard. In addition, while conducting the cruise, scientists will receive near real-time remote sensing data from NOAA's Pacific Fisheries Environmental Laboratory to optimize scientific operations.

After nearly two-weeks, the R/V *Thompson* will return to Port Angeles, WA on October 17th. Scientists will then examine the data and work with museum experts and others to ensure collected samples are accurately identified and preserved for future analysis.

"We hope that mapping Cherry Bank, from the surface of the water to the sea bed, will give us valuable new information about this important area," stated Clarke. "The testing of these technologies and development of tools to produce an integrated ecosystem map will complement ongoing studies with our collaborators and enhance our efforts to provide information on living marine resources to an ocean observation system."

A website related to this cruise will be available on Thursday, September 30th at www.nwfsc.noaa.gov/research/cruises/index.cfm.

NOAA Fisheries is dedicated to providing and preserving the nation's living marine resources and their habitat through scientific research, management, and enforcement. NOAA Fisheries provides effective stewardship of these resources for the benefit of the nation, supporting coastal communities that depend upon them, and helping to provide safe and healthy seafood to consumers and recreational opportunities for the American public.

The Commerce Department's National Oceanic and Atmospheric Administration (NOAA) is dedicated to enhancing economic security and national safety through the prediction and research of weather and climate-related events and providing environmental stewardship of our nation's coastal and marine resources.

On the Web:

NOAA: <http://www.noaa.gov>

NOAA Fisheries: <http://www.nmfs.noaa.gov>

Northwest Fisheries Science Center: <http://www.nwfsc.noaa.gov>

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